

REMARKSPending claims

Claims 1, 2, and 6 to 9 are pending in this application. Claims 1, 6, 7 and 9 have been amended to more clearly define and describe the invention, and distinguish their subject matter over the prior art cited, as requested by the Examiner. Claim 2 has also been amended to clarify its language. No new matter has been added by any of these amendments. Reconsideration is respectfully requested in view of the amendments and remarks herein.

Rejections under 35 U.S.C. §112

The Office Action has rejected claim 2 for the use of the term "package". The reference to "package" has been corrected to --packet--.

Rejections under 35 U.S.C. §102

Claims 1, 2 and 6 to 9 are rejected under 35 U.S.C. §102(b) as being anticipated by Hart (U.S. Patent No. 5862344). In the Office Action the passages of Hart in column 3 at lines 21 to 29 and column 7 at lines 11 to 24 are cited in particular.

The passage referred to in the Office Action in column 3 of Hart asserts that the Hart invention relates to an arrangement which enables a data packet to be routed through a network comprising a plurality of sub networks (such as separate LANs or WANs). There is no discussion in this passage of processing an information request in the data packet in order to generate response data. The passage referred to in the Office Action in column 7 of Hart is merely a general description of the function of a router. As explained by Hart, routers may add additional information to a data packet in order to route the data packet through a network. As will be appreciated by those skilled in the art, a router does not perform processing of information requested in a data packet in order to generate response data.

Hart is not concerned with how an information request in a data packet is processed in order to generate response data. Rather, Hart is concerned with the routing of a data packet.

The "processing" referred to by Hart is merely to add a destination address to the data packet. To add such a destination address, Hart proposes an arrangement where a centralised Multiple Communications Adapter Module (MCAM) 100 contains a first memory 503 and a second memory 504. The first memory 503 stores addressing data for routing data packets from a source network to one or more destination networks. The second memory 504 stores addressing data for routing data packets between particular selected ones of the source and destination networks. The second memory 504 is a high-speed buffer storage that is continuously updated to contain the most recently addressed contents of the first memory 503 (which is the main memory). The second memory 504 is provided to speed access to frequently used addressing data.

From the above discussion, it should be understood that Hart discloses an arrangement which allows a data packet to be transmitted from a first sub-network to a second sub-network. When the data packet is required to be routed to the second sub-network, the MCAM 100 interrogates the first and second memories 503 and 504, which return the address of the node of the second sub-network to which the data packet should be routed. The routing of the data packets is controlled by the centralised MCAM 100. There must be an entry in the first memory 503 (and sometimes also in the second memory 504) indicating the current address and the final destination address of the relevant data packet. As discussed in the present application, maintaining such a database requires a considerable amount of effort - especially when many data packets are being transmitted simultaneously.

In contrast to the arrangement for simply routing a data packet disclosed by Hart, the present invention is concerned with the distributed processing of data packets to respond to an information request on the data packet. The routing of the data packets is performed in dependence only upon the content of the data packet. No central store of addressing data is required.

As recited in the independent claims, first and second processing nodes are provided. A data packet holding an information request is interpreted by the first processing node to determine whether that processing node is able to process the information request or not. No such interpretation of the data packet and determining of whether processing of the

information request of the data packet is possible is disclosed or suggested by Hart. Nor does Hart disclose onward routing of the data packet based only on the content of the data packet. Hart refers to the ability of a router to add additional information to a data packet solely to route the data packet through a network. Further, this information is obtained from the central MCAM 100 with reference to the first and/or memories 503 and 504. In contrast, in the present application, the routing information that the first processing node provides in the further layer added to the data packet is determined by the first processing node in dependence upon only the data packet content. No reference is made to a centralised database for routing information. The present invention specifically seeks to avoid this. When processing of the information request has been completed by as many processing nodes as is necessary, response data is generated and held by the data packet for use by the originator of the data packet (the client).

In the present invention, the data packets are essentially self-contained and can be passed from one processing node to another processing node. There is no need to construct and manage a complex database of address data of various information requests submitted by clients. The routing of the data packet from one processing node to another processing node is determined by the sending processing node in dependence upon the data packet content.

In this way, the present invention provides an arrangement in which an information request is evaluated by each processing node to determine whether that processing node can process the information request (either wholly or partially). Each node, in addition to adding routing information, may add to the data packet information generated as a result of the processing of the data packet by the node. This added information may be used by subsequent processing nodes to assist in generating the response data.

Although in the present invention the client specifies the information request and may specify the location of the first processing node, thereafter the routing and the processing of the information request are determined by the first processing node and subsequent processing nodes. The need to maintain a centralised database such as the MCAM 100 in Hart is avoided. This makes the arrangement of the present invention highly scaleable.

In the Office Action in the "Response to Remarks" section, it is indicated that the present invention relates to a method for appending data (such as routing data) to data packets. It is respectfully submitted that the present invention is much more than this. An arrangement is disclosed wherein each processing node interprets a received data packet to determine whether it is able to process the information request in that data packet. The processing node does append data (such as routing data) to the data packet. However, significantly, and in distinction from the Hart reference, that routing data is determined by the processing node in dependence upon only the data packet content.

Conclusions

In summary, Hart does not disclose or appreciate the claimed invention. Accordingly, it does not anticipate or render obvious the claims of the present application. In view of the amendments made to the claims in the foregoing remarks, the application is submitted to be in good and proper form for allowance, and the Examiner is respectfully requested to pass the application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to telephone the undersigned attorney.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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